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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,573	05/21/2001	Anthony L. Lentine	32-2-26	7990
7590		06/13/2005	EXAMINER	
John A. Caccuro		DUONG, DUC T		
9 Ladwood Drive		ART UNIT		
Holmdel, NJ 07733		PAPER NUMBER		
		2663		

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/862,573

Applicant(s)

LENTINE ET AL.

Examiner

Duc T. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-14, 16, 17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-13, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Creigh et al (US Patent 5,956,348).

Regarding to claims 1 and 19, Creigh discloses a data compression multiplexer apparatus comprising a plurality of data stream compression apparatuses 10e, 12e, 14e, and 16e (fig. 1 col. 3 lines 40-45), each comprising a data stream processing element (stretch removal logic 36) for receiving a first data stream 64 of data entities at

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a first line rate (fig. 9 col. 6 lines 33-34), each data entity including a data packet (LAN frame segments) and a gap 58-60 (fig. 8), and responsive to a control signal for generating a second stream (output of reconstructed frame register 70) of data entities at a second line rate (fig. 9 col. 6 lines 35-37; noted in response to control signal of stretch symbol detection 68, reconstructed frame register 70 output frame data units) which is less than the first line rate (fig. 9; noted second data stream output by reconstructed frame register 70 has four blocks of data and the first data stream 64 has five blocks of data, thus the line rate of the second data stream is less than of the first data stream 64 by one block of data), each second data stream entity including a data packet and a gap (col. 6 lines 38-43; it is inherent the LAN frame or data stream generated by the reconstructed frame register 70 include a data packet and a gap, since the LAN frame or data stream output by the frame register 70 may not be identical to the original frame or data stream a gap may be create as of the result); and a control unit 68 transmit for providing said control signal identifying a predetermined portion of non-unique, invariant content of said first stream of data entities, said predetermined portion of non-unique, invariant content (fig. 8; the EI 60 and SI 58 symbols read on the non-unique, invariant content) being identified using pre-knowledge of the type of said first data stream of data entities (fig. 9 col. 6 lines 14-28), and wherein said data stream processing element in response to said control signal removes said predetermined portion of non-unique, invariant content of said first stream of data entities thereby generating said second data stream of data entities at the second line rate (fig. 9 col. 6 lines 38-43).

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Regarding to claims 2 and 9, Creigh discloses the non-unique, invariant content of said first data stream is determined in real-time (col. 6 lines 32-35; the stretch symbols are simultaneously received by buffer 66 and stretch symbol detector 68, and thus it is process in real-time).

Regarding to claims 3 and 10, Creigh discloses the non-unique, invariant content includes one or more inter-packet characters (fig. 8 col. 5 lines 45-52; the SI 58 and EI symbols read on the inter-packet characters).

Regarding to claims 4 and 11, Creigh discloses the first data stream is gigabit Ethernet data stream (col. 4 lines 17-22) and the non-unique, invariant content includes one or more PREAMBLE characters (fig. 8 col. 5 lines 45-52; the SI 58 and EI symbols read on the PREAMBLE characters).

Regarding to claims 5 and 12, Creigh discloses the first data stream is gigabit Ethernet data stream (col. 4 lines 17-22) and the non-unique, invariant content includes one or more IDLE2 characters (fig. 8 col. 5 lines 45-52; the SI 58 and EI symbols read on the IDLE2 characters).

Regarding to claims 6 and 13, Creigh discloses non-unique, invariant content of said first stream of data entities has been predetermined (col. 6 lines 14-28).

Regarding to claims 7, 8, and 20, Creigh discloses a plurality of data stream expansion apparatus 10e, 12e, 14e, and 16e (fig. 1 col. 3 lines 40-45), each comprising a data stream processing element 34 for receiving a second data stream 46 of data entities at a second line rate (fig. 7 col. 5 lines 21-27), each data entity including a data packet and a gap (fig. 7 col. 5 lines 29-35) and responsive to a control signal for

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generating a first stream 50 of data entities at a first line rate (fig. 7 col. 5 lines 27-40 which is greater than the second line rate (fig. 7; noted second data stream 46 output by stretch logic 42 has four blocks of data and the first data stream 50 has five blocks of data, thus the line rate of the first data stream 50 is greater than of the second data stream 46 by one block of data), a control unit 48 for providing said control signal identifying a predetermined portion of non-unique, invariant content (fig. 8; the EI 60 and SI 58 symbols read on the non-unique, invariant content) which is to be added to said second data stream of data entities (fig. 7 col. 5 lines 29-45), said control unit using pre-knowledge to identify said predetermined portion of non-unique, invariant content which is added to said second data stream of data entities (fig. 9 col. 6 lines 14-28), and wherein said data stream processing element in response to said control signal adds said predetermined portion of non-unique, invariant content to data packet or gap of one or more data entities of said second data stream thereby generating said first data stream of data entities at the first line rate (fig. 7 col. 5 lines 37-41).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14, 16, and 117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Creigh in view of Bortoff et al (US Publishing 2001/0014104 A1).

Regarding to claim 14, Creigh discloses a data compression apparatus comprising a plurality of data stream compression apparatuses 10e, 12e, 14e, and 16e (fig. 1 col. 3 lines 40-45), each comprising a data stream processing element (stretch removal logic 36) for receiving a first data stream 64 of data entities at a first line rate (fig. 9 col. 6 lines 33-34), each data entity including a data packet (LAN frame segments) and a gap 58-60 (fig. 8), and responsive to a control signal for generating a second stream (output of reconstructed frame register 70) of data entities at a second line rate (fig. 9 col. 6 lines 35-37; noted in response to control signal of stretch symbol detection 68, reconstructed frame register 70 output frame data units) which is less than the first line rate (fig. 9; noted second data stream output by reconstructed frame register 70 has four blocks of data and the first data stream 64 has five blocks of data, thus the line rate of the second data stream is less than of the first data stream 64 by one block of data), each second data stream entity including a data packet and a gap (); and a control unit 68 transmit for providing said control signal identifying a predetermined portion of non-unique, invariant content of said first stream of data entities, said predetermined portion of non-unique, invariant content (fig. 8; the EI 60 and SI 58 symbols read on the non-unique, invariant content) being identified using pre-knowledge of the type of said first data stream of data entities (fig. 9 col. 6 lines 14-28), and wherein said data stream processing element in response to said control signal removes said predetermined portion of non-unique, invariant content of said first stream of data entities thereby generating said second data stream of data entities at the second line rate (fig. 9 col. 6 lines 38-43).

Creigh fails to teach for a data stream multiplexer for multiplexing said plurality of second data streams to generate a multiplexed data stream.

However, Bortoff discloses a communication network comprising a data stream multiplexer for multiplexing said plurality of second data streams to generate a multiplexed data stream (page 2 paragraph 0014).

Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to employ a multiplexer as taught by Bortoff in Creigh's system for mapping Ethernet data streams to a SONET frame format.

Regarding to claims 16 and 17, Creigh discloses a plurality of data stream expansion apparatus 10e, 12e, 14e, and 16e (fig. 1 col. 3 lines 40-45), each comprising a data stream processing element 34 for receiving a second data stream 46 of data entities at a second line rate (fig. 7 col. 5 lines 21-27), each data entity including a data packet and a gap (fig. 7 col. 5 lines 29-35) and responsive to a control signal for generating a first stream 50 of data entities at a first line rate (fig. 7 col. 5 lines 27-40 which is greater than the second line rate (fig. 7; noted second data stream 46 output by stretch logic 42 has four blocks of data and the first data stream 50 has five blocks of data, thus the line rate of the first data stream 50 is greater than of the second data stream 46 by one block of data), a control unit 48 for providing said control signal identifying a predetermined portion of non-unique, invariant content (fig. 8; the EI 60 and SI 58 symbols read on the non-unique, invariant content) which is to be added to said second data stream of data entities (fig. 7 col. 5 lines 29-45), said control unit using pre-knowledge to identify said predetermined portion of non-unique, invariant content which



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is added to said second data stream of data entities (fig. 9 col. 6 lines 14-28), and wherein said data stream processing element in response to said control signal adds said predetermined portion of non-unique, invariant content to data packet or gap of one or more data entities of said second data stream thereby generating said first data stream of data entities at the first line rate (fig. 7 col. 5 lines 37-41).

Creigh fails to teach for a data stream demultiplexer for demultiplexing said a received multiplexed data stream into a plurality of second data streams.

However, Bortoff discloses a communication network comprising a data stream demultiplexer for demultiplexing said a received multiplexed data stream into plurality of second data streams (page 2 paragraph 0014).

Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to employ a demultiplexer as taught by Bortoff in Creigh's system for de-mapping a SONET frame format into plurality Ethernet data streams.

***Allowable Subject Matter***

6. Claims 15 and 18 are allowed

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or make obvious the step of or means for **“eight data stream compression apparatuses”**, when such number of data stream compression apparatus is considered within the specific structure of the device recited in claim 15. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or make obvious the step of or means for **“eight data stream expansion apparatuses”**, when such number of data

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stream expansion apparatus in considered within the specific structure of the device recited in claim 18.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Duong whose telephone number is 571-272-3122. The examiner can normally be reached on M-F (9:00 AM-5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DD

DD

  
RICKY NGO  
PRIMARY EXAMINER

8/9/05